

BLUE

Work Order ID 61037

August 4, 2010 1:37:58 PM



Page 1

Item ID: D206-667-203BL

Accept



Setup Start



Revision ID:

Stop



Item Name: Crosstube Aft, Blue

Start Date: 8/04/10 Start Qty: 1.00



Cust Item ID:

Required Date: 8/16/10 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: Date: 10-8-04 Tooling: Date:
QC: Date: SPC (Y/N): Date:

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D206-667-243	C

100
 DOCUMENT CONTROL 0.00
DC Memo 0.00
Document Control Photocopy bluefile and create labels as per PPP D206-667-203 CHG003

for BG 10-9-02

110
 BENDING MACHINE - CROSSTUBES 0.00
CNC Bend 2 Memo 0.00
CNC Alpha 160 Bender Bend tube as per Dwg D206-667-243 using CNC bender program D206-667-203

IX MO 10-08-25

120
 QC15- Crosstube Dimensional Check 0.00
QC Memo 0.00
Quality Control

810/08/25

XL

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 61037

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Start Date: 8/04/10 Start Qty: 1.00



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Run Start



Approvals: Process Plan: Date: Tooling: Date:

Stop



QC: Date: SPC (Y/N): Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

130

0.00



Crosstubes

Crosstubes

Memo

0.00

Crosstubes

1-Drill pilot holes in tube using drill Jig DT8583 & DT8584 and drill table DT8577 and tower holes #6 as per QSI0010 and as per Dwg D206-667-243. Drill all (3) top holes.

2-Drill and Ream all holes in tube to finish size using drill Jig DT8583 & DT8584 as per Dwg D206-667-243 Check dimensions between holes on all four sides.

3-Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins.

4-Drill pilot holes using drill Jig DT8583 & DT8584 as per Dwg D206-667-243. Drill only the top (2) holes.

5-Drill & ream the top (2) holes to finish size using drill Jig DT8583 & DT8584 as per Dwg D206-667-243

6-Drill Fwd rivet holes using drill Jig DT8789FWD as per Dwg D206-667-143. Note: Fwd side has 3x top holes.

7-Drill Aft rivet holes using drill Jig DT8789 as per Dwg D206-667-243.

8-C'sink holes as per Dwg D206-667-243.

9 -Scribe part # and batch # using vibrating stylus as per Dwg D206-667-243 Inside of Cuff(Donot engrave on outside of tube)

10 -Deburr & Inspect for surface damage. Repair damage within limits as per.

10-8-25

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
	Dwg D206-667-243								
140	Crosstubes Chemical Conversion	0.00							
HandFXtube	Memo	0.00							
Hand Finishing Crosstubes									
150	QC3- Inspect Part Finish	0.00							
QC	Memo	0.00							
Quality Control									
160	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									

DP 10-8-26

8/10/08/26

S 10/08/26

④

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

200

0.00



SprayPaint

SprayPaint

Memo

0.00

Spray Painting

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with

Spray paint Delfleet Blue

Delfleet Blue B 113 171

Delfleet Clear B 113 314

PRIME:

Start Time: 7:00

Fininsh Time: 8:00

PAINT:

Start Time: 11:00

Finish Time: 12:00

25 10-08-30

210

QC14- Inspet Spray Paint

0.00



QC

Memo

0.00

Quality Control

Wrap in plastic bag to protect from scratches

10 08 31 11

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

220

0.00



Crosstubes

Crosstubes

Memo

0.00

Crosstubes

1-Install nut plates as per Dwg D206-667-243.

2T 10-08-30

230

0.00



Skidtubes

Crosstubes

Memo

0.00

Crosstubes

1-Install support using 0.03" to 0.06" thick layer of magnobond 6398 per QSI 015. Let cure for 12h after installation and prior to packaging. Note: (3) top holes should be facing up.

A/R Magnobond 6398 : 114158

2-Install supports and clamps as per Dwg D206-667-243. Torque clamps to 80-100 in lb

ml 10-09-01

2T 10-09-01

W/O:		WORK ORDER CHANGES					
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Required Date: 8/16/10 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00				1			
250 Packaging Packaging	Pick Kit Memo	0.00 0.00				10/9/2sf			
260 QC Quality Control	QC4- 100% Inspect kits for completeness Memo	0.00 0.00				40			

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270 	Packaging	0.00							
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D206-667-203 Location: _____ PPP Rev: _____								
280 	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

10/7/8

10/09/08

mf
10-9-8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Picklist Print

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Page 1

Work Order ID: 61037

Parent Item: D206-667-203BL

Parent Item Name: Crosstube Aft, Blue



Start Date: 8/04/10

Required Date: 8/16/10

Start Qty: 1.00

Required Qty: 1.00

Comments:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

AN5-10A

Purchased

No

Each

159.0000

10

10



Bolt

Location

Loc Qty

Loc Code

ST337

159

114752

59

115108

100

AN5-32A

Purchased

No

Each

232.0000

4

4



Bolt

Location

Loc Qty

Loc Code

ST340

232

113121

4

114056

74

114405

50

115016

50

115108

50

15072

4

AN5-34A

Purchased

No

Each

88.0000

4

4



Bolt

Location

Loc Qty

Loc Code

ST340

88

113149

38

113226

50

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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August 4, 2010 1:38:03 PM

Page 2

Work Order ID: 61037

Parent Item: D206-667-203BL

Parent Item Name: Crosstube Aft, Blue

Start Date: 8/04/10

Required Date: 8/16/10

Start Qty: 1.00

Required Qty: 1.00

AN960JD516 NAS1149D0563J Purchased No

Each 34.0000 18 18



Washer



1114742 10/9/25

Location	Loc Qty	Loc Code
ST	34	
103694	18	
107534	12	
109287	4	

D206-667-203TRN Manufactured No

Each 2.0000 1 1



Crosstube Turning Detail



10-08-25

Location	Loc Qty	Loc Code
LG	2	
60377	1	
60378	1	

D2873-043 Manufactured No

Each 32.0000 2 2



Nut Plate Assembly



RT 10-08-30

Location	Loc Qty	Loc Code
LG	32	
53966	10	
56466	2	
57337	20	

D2873-045 Manufactured No

Each 28.0000 2 2



Nut Plate Assembly



RT 10-08-30

Location	Loc Qty	Loc Code
LG	28	
53968	9	
57336	19	

August 4, 2010 1:38:03 PM

Shop Packet Print

Page 2

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

August 4, 2010 1:38:03 PM

Work Order ID: 61037



Parent Item: D206-667-203BL



Parent Item Name: Crosstube Aft, Blue

Start Date: 8/04/10

Required Date: 8/16/10

Start Qty: 1.00

Required Qty: 1.00

D2892-1 Manufactured No

Each 48.0000 2 2



25 (0-09-01)

Support

Location	Loc Qty	Loc Code
LG	48	
41986	12	
42785	20	
53124	11	
55787	5	

x2

ATTN: BLUE

D3595-063-450 Manufactured No

Each 38.5390 4 4



25 (0-09-01)

RUBBER CUSHION

360983 x4

Location	Loc Qty	Loc Code
LG	38.53897368	
53775	5.97897368	
58161	3.56	
59580	29	

MS20601-AD4W10 Purchased No

Each 72.0000 14 14



10-08-30

RIVET

Location	Loc Qty	Loc Code
LG051	58	
114245	58	
ST322	14	
113220	14	

x14

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Work Order ID: 61037



Parent Item: D206-667-203BL



Parent Item Name: Crosstube Aft, Blue

Start Date: 8/04/10

Required Date: 8/16/10

Start Qty: 1.00

Required Qty: 1.00

MS21042L5

Purchased

No

Each

764.0000

4

4



10/9/28

Nut

Location

Loc Qty

Loc Code

ST139

264

114813

264

4

ST300

500

115156

500

MS21920-22

Purchased

No

Each

102.0000

4

4



10-09-01

Clamp(per MIL-DTL-8783C)

Location

Loc Qty

Loc Code

LG

102

111210

3

114077

99

24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

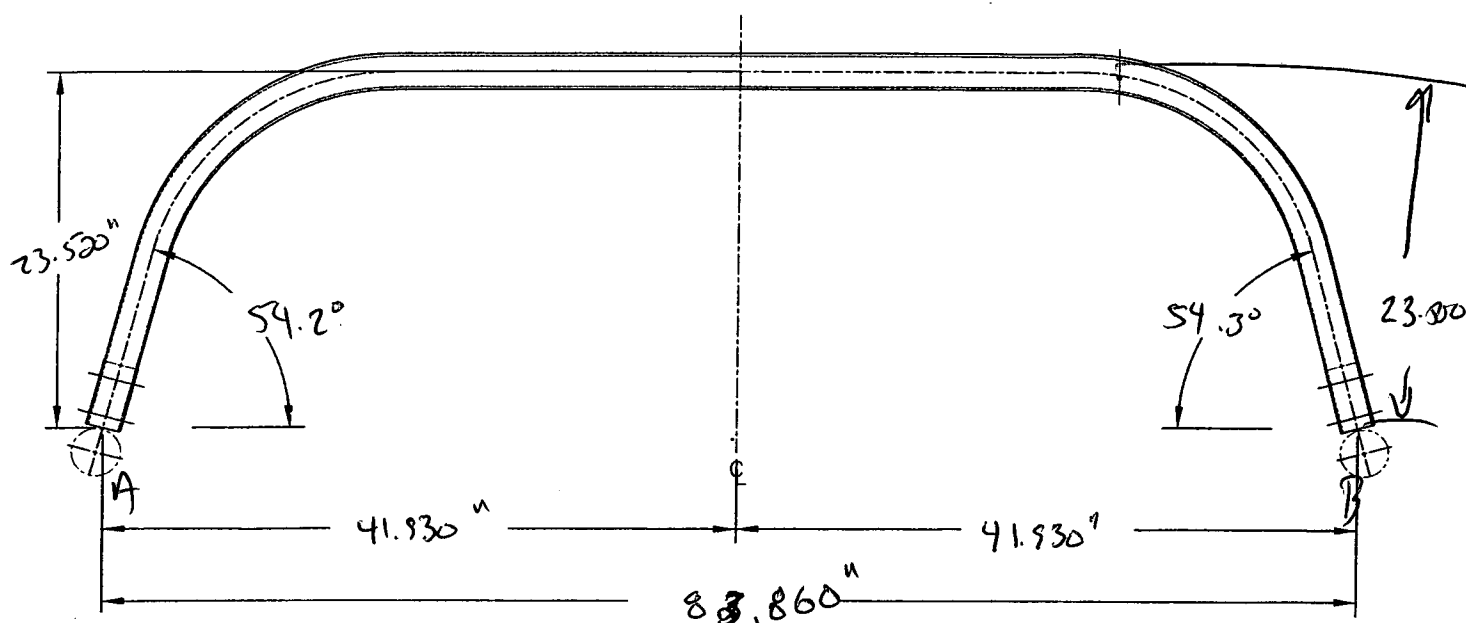
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	61037
Description: Crosstube High Aft (206L)		Part Number:	D206-667-203
Inspection Dwg: D206-667-243 Rev: C		Page 1 of 1	

Required Dimension	Min	Max
Height	23.39	23.65
1/2 Span	41.79	42.05
Angle	54	56
Total Span	83.58	84.1



Comments

QC15 Inspection	8
Date	10/08/25

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	09.11.17	Dwg Rev updated	KJ	
C	09.12.14	Dimensions update per Dwg Rev C	KJ	

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Item	Qty -243	Part Number	Description
1	X	D206-667-243	CROSSTUBE ASSEMBLY (206L HIGH AFT)
2	1	D6004-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2892-1	SUPPORT
6	4	D3595-063-450	RUBBER CUSHION
7	4	MS21920-22	CLAMP
8	14	MS20601AD4W10	RIVET (OR NAS9302B-4-10)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299- 947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6004-115
FINISHED LENGTH = 104.91±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-243" AND BATCH NUMBER ON
INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 21.9 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY,
TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE
TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2892-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER
QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-22 CLAMPS WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE
D2892-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE
LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN
SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 61037
P810-8-09

RELEASED
8/11/06

C	REVISE GENERAL NOTES/PART LIST (ZN D7-1); REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-063-450 WAS D2856-400-773 (ZN D6-2 & A5-2); REMOVED REF. & ADD TOLERANCES (ZN 4-3, C5-3, D3-3); RELOCATED FLAG #6 (ZN A8-3) PER NCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
B	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKUDTUBES	PH	05.07.28
A	NEW ISSUE	CP	00.11.17
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF	DRAWING NO.	REV. C
CHECKED	RF	D206-667-243	SHEET 1 OF 4
MFG. APPR.	RF	TITLE	SCALE
APPROVED	RF	CROSSTUBE ASSY (206L HIGH AFT)	NTS
DE APPR.	RF	COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	
DATE	08.11.06		

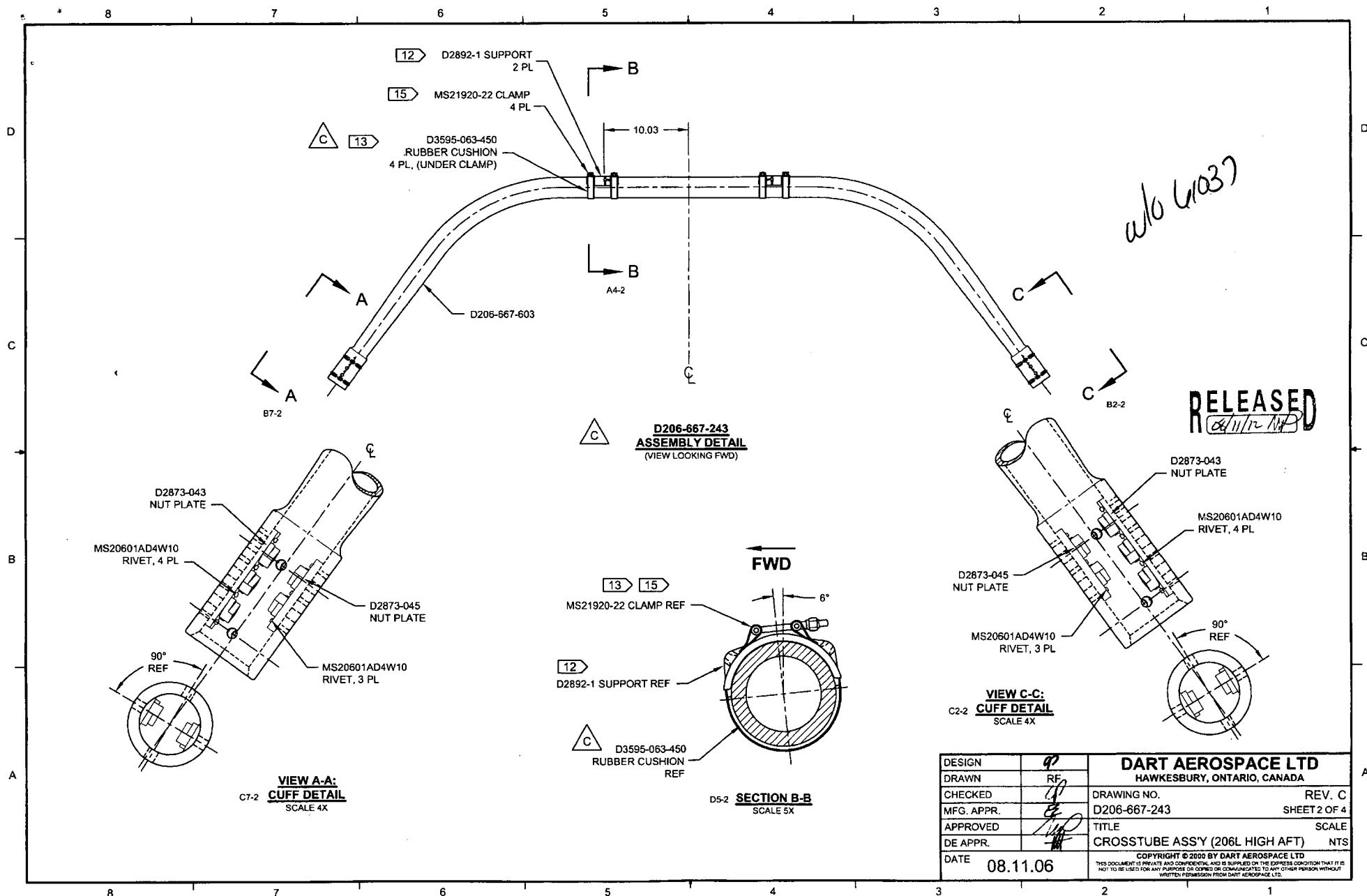
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



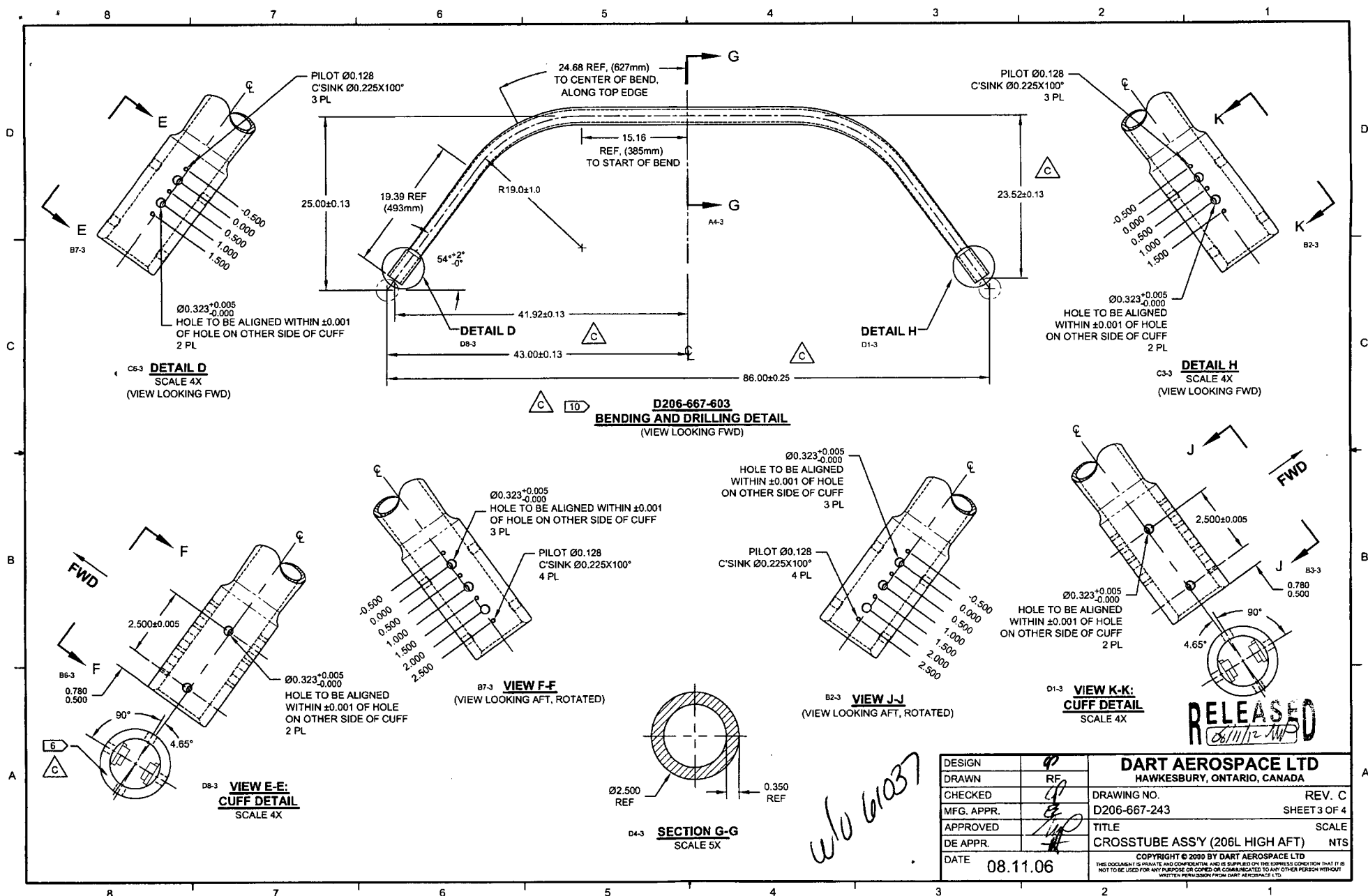
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN	Q	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	Q	DRAWING NO.	REV. C
MFG. APPR.	E	D206-667-243	SHEET 3 OF 4
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	CROSTUBE ASSY (206L HIGH AFT)	NTS
DATE	08.11.06	COPYRIGHT © 2000 BY DART AEROSPACE LTD	
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

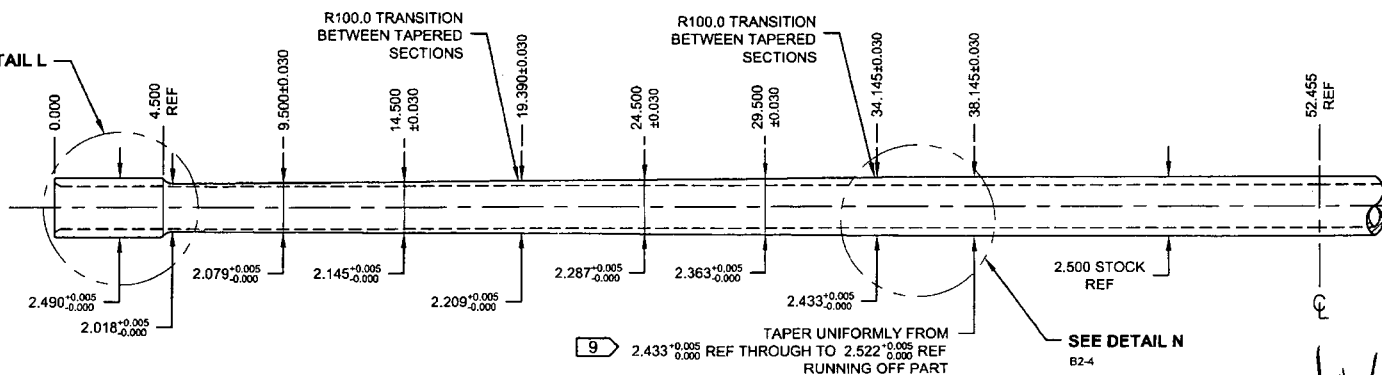
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

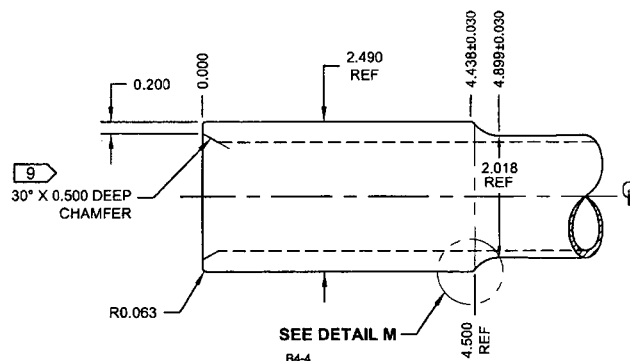
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

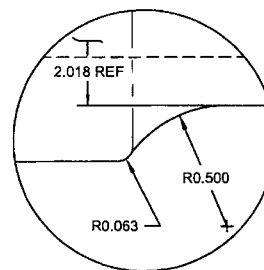
SEE DETAIL L
B7-4



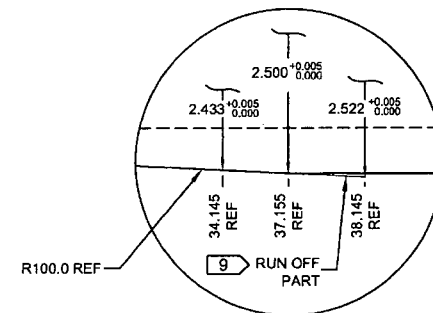
TURNING DETAIL



DETAIL L: CROSSTUBE CUFF
NOT TO SCALE



DETAIL M: CUFF TRANSITION
NOT TO SCALE



DETAIL N: TAPER RUN-OFF
NOT TO SCALE

RELEASED
08/11/06

DESIGN	4P	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	4P	DRAWING NO.	REV. C
MFG. APPR.	4P	D206-667-243	SHEET 4 OF 4
APPROVED	4P	TITLE	SCALE
DE APPR.	4P	CROSSTUBE ASSY (206L HIGH AFT)	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



LIQUID PENETRANT TEST REPORT

P- 15187

CLIENT	DART Aerospace	DATE	Aug 27-2010	PAGE	1	OF	1	
ATTENTION	LINDA/CHANTEL	ACUREN JOB NO.	188-10-0829	TIME	AM	<input checked="" type="checkbox"/>	PM	<input type="checkbox"/>
ADDRESS	1270 ABERDEEN STREET HAWKESBURY ON. K6A 1K7	PO/VO NO.		WORK LOCATION	HAWKESBURY PLANT			
PROJECT	F.P.I.	ACCEPTANCE STD.	ASTM 1417	REV./DATE	2007			
ITEM(S) EXAMINED	9 ON CROSS TUBES PCS							

JOB DESCRIPTION	PROCEDURE NO.	LT-002	REV./DATE	TECHNIQUE NO.	LT-TECH2	REV./DATE	
PART NO.			MATERIAL	ALUMINUM		THICKNESS	VARIOUS
SCOPE	WET FLUORESCENT LIQUID PENETRANT INSPECTION CARRIED OUT 100% EXTERNAL.						

TEST DETAILS	
METHOD	<input checked="" type="checkbox"/> FLUORESCENT <input type="checkbox"/> VISIBLE
FAMILY BRAND	MAGNA FLUX
PENETRANT	2167 MINIMUM DWELL TIME 45 MIN.
PENETRANT REMOVER	H2O MINIMUM DRY TIME >10 MIN.
DEVELOPER	SKD 52 MINIMUM DWELL TIME 10 MIN.
DEVELOPER TYPE	<input checked="" type="checkbox"/> NON AQUEOUS <input type="checkbox"/> AQUEOUS <input type="checkbox"/> DRY
<input checked="" type="checkbox"/> WATER WASH <input type="checkbox"/> SOLVENT REMOVABLE <input type="checkbox"/> POST EMULSIFIED	
BLACK LIGHT S/N 16459 <input type="checkbox"/> OUTPUT > 1000 μ W/cm ² <input type="checkbox"/> AMBIENT < 2 fc	
LIGHTING EQUIP. <input type="checkbox"/> FLASHLIGHT <input type="checkbox"/> TROUBLELIGHT <input type="checkbox"/> OUTPUT > 100 fc @ SURFACE	
OTHER LABING	
LIGHT METER S/N 1098866 CAL DUE DATE OCT 19 2010	

TEST SURFACE	
SURFACE CONDITION	<input type="checkbox"/> AS GROUND <input type="checkbox"/> AS WELDED <input type="checkbox"/> MACHINED <input type="checkbox"/> SHOT BLASTED <input checked="" type="checkbox"/> CLEAN BARE METAL
SURFACE TEMPERATURE	<input type="checkbox"/> < -4°C/ 20°F <input type="checkbox"/> -4°C/ 20°F TO 10°C/ 50°F <input checked="" type="checkbox"/> 10°C/ 50°F TO 52°C/ 125°F <input type="checkbox"/> > 52°C/ 125°F

RESULTS-	<input type="checkbox"/> METRIC <input type="checkbox"/> IMPERIAL
----------	---

1 - CROSS TUBE-W.O. 61038 ✓
1 - CROSS TUBE-W.O. 61037 ✓
1 - CROSS TUBE-W.O. 61387 ✓
1 - CROSS TUBE-W.O. 61388 ✓
1 - CROSS TUBE-W.O. 60523 ✓
1 - CROSS TUBE-W.O. 60524 ✓
1 - CROSS TUBE-W.O. 61036 ✓
1 - CROSS TUBE-W.O. 61035 ✓
1 - CROSS TUBE-W.O. 60573 ✓

RT 10-08-30

Scope of Services
The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

Standard of Care
In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES	
CLIENT REPRESENTATIVE	Ken Tifley
TECHNICIAN (SIGNATURE):	Mike Johnston
NAME (PRINT):	Mike Johnston
CGSB LEVEL	II
CGSB REG. NO.	66606
1 ST TECHNICIAN	2 ND TECHNICIAN
CGSB LEVEL	SNT LEVEL
CGSB REG. NO.	CGSB REG. NO.
DTR #	E27424
REPORT REVIEWED BY:	NAME INITIALS